

MSU 4.1-541  
Appl. No. 09/761,143  
Amdt. Dated: February 4, 2008  
Reply to Final Office Action mailed November 6, 2007

**REMARKS**

Claims 1, 3-6, 15-18, 27-30 and 34 are pending.  
No claims are allowed. In the final Office Action mailed November 6, 2007, the Terminal Disclaimers have not been considered. This Amendment assumes that they were effective to overcome the double patenting rejections.

Independent Claims 1 and 27 have been amended to call for a dried mixture as in Examples 1 and 2 on page 13. This more precisely defines the invention and distinguishes it from the prior art.

The claims were rejected under 35 USC 112, second paragraph, because of the way "lyophilized" was presented as being new matter. Claims 1 and 27 have been amended to reposition "lyophilized" as disclosed on page 13 of the application and to call for an anthocyanin. Claims 15 and 34 have been amended to conform to the change in Claims 1 and 27. In a telephone interview with Examiner Leith on Friday, February 1, 2008, it was agreed that this would overcome this rejection.

Claims 1, 3-6, 27-30 and 34 were rejected under 35 USC 103(a) as being unpatentable over Gryglewski et

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al. (1987) in view of Lietti et al. (GB 1,589,294), in view of Hellberg et al. (U.S. Patent No. 5,691,360) in view of Brenner et al. (U.S. Patent No. 5,462,932) in view of Roy (U.S. Patent No. 4,712,310). The last two (2) references were new in the final rejection. Hellberg et al. does not describe compounds which are even remotely structurally or chemically related to anthocyanins or anthocyanidins. The complete paragraph reads as follows:

"The preferred antioxidant moieties in the compounds of formula (I) and formula (II) are phenolic compounds. The antioxidant activity of these compounds is thought to reside in their ability to react with free radicals and therefore terminate radical chain reactions. The reaction of these phenolic compounds with peroxy free radicals in biological systems is particularly important. The phenoxy radicals formed by the reaction of a free radical with a phenol are resonance stabilized and typically do not continue the chain reaction. In biological systems, the parent phenol from phenolic antioxidants such as  $\alpha$ -tocopherol (vitamin E) can be regenerated from the phenoxy free radical by vitamin C and/or glutathione (GSH), thereby providing a way to complete the detoxification process. See *Free Radical Biology & Medicine*, volume 15, pages 311-328 (1993).

The antioxidant activity of the phenolic compounds is enhanced by stabilizing the phenoxy free radical or by facilitating the transfer of the free radical to other components of the detoxification mechanism, such as GSH or vitamin C. Alkyl substituents stabilize the phenoxy free radical by electron donation and the stearic bulk of ortho substituents reduces the propensity of the phenoxy radical to participate in free radical chain reactions".

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There is no way that conclusions in relation to Compounds I or II of the Hellberg et al. patent could be used by one skilled in the art to deduce anything about the stability of the compounds of the present invention in the presence of food grade acids in the claimed invention. This is a hindsight reconstruction of the claimed invention from Applicants' own disclosure and is not supported by the facts. The Nair Declaration Under 37 CFR 1.132 filed in this application clearly shows that the problem is the loss of the anthocyanins to hydrolysis when the fruit is crushed. The presently claimed invention has nothing to do with the compounds of Hellberg et al. The combination rejection clearly is incorrect.

Lietti et al. does not support the combination rejection. The reference teaches only cyanidin as a useful product and the anthocyanins are hydrolyzed to obtain the cyanidin before use. Nothing suggests the claimed compositions, since Lietti et al. would hydrolyze them away before use, thus "teaching away" from the claimed invention.

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Gryglewski et al. does not show any particular activity for cyanidol (cyanidin). There is no disclosure which relates to the claimed compositions.

Roy teaches compounds which are not chemically related to anthocyanins. The food grade acid used by Applicants is to retard degradation of the anthocyanin in the claimed compositions. The problem Brenner et al. deals with is bone loss therapy. One would not use an acid in solution with an anthocyanin as in this reference because of the problem of hydrolysis. This reference is thus remote from the claimed invention.

The problem and the Applicants' claimed invention is not suggested in any way by the references alone or in combination. One skilled in the art would not think of removing the malic acid which hydrolyzes the anthocyanin when the fruit is crushed to replace it with a food grade acid in the dried mixture claimed to prevent hydrolysis. There is no suggestion of this composition in the prior art of record for the claimed method of use.

Thus, the claimed composition is not suggested in any way from the prior art. There is no possibility

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of a "*prima facie*" obviousness rejection. There is no suggestion in any way of adding a food grade acid to the claimed composition including an anthocyanin. There is no basis for a *prima facie* rejection for the combination of references. Reconsideration of this rejection is requested.

One skilled in the art would not decide to add a food grade acid to a composition which has an anthocyanin which is hydrolyzable by acids. Based upon the prior art, one would conclude that this would cause the anthocyanin to be hydrolyzed. The invention claimed is specific in claiming a dried mixture with the food grade acid. The references do not suggest this invention in any way.

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The Applicants' attorney thanks the Examiner for the helpful interview. It is believed that Claims 1, 3-6, 15-18, 27-30 and 34 are in condition for allowance. Notice of Allowance is requested.

Respectfully



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